Beach Restoration/Rehabilitation in Puget Sound, WA: 5 Years of Monitoring at 2 Projects and Lessons Learned

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Soft shore protection offers Puget Sound coastal property managers environmentally acceptable erosion control and has been favored over “hard” bulkheads. However, little physical monitoring data exists. Projects typically rebuild the high-tide beach to protect property, increase the littoral sediment supply, and benefit nearshore habitats through the introduction of littoral sediment, woody debris, vegetation, shade, and increased shoreline complexity. This presentation summarizes the results of 5-years of monitoring of two Northern Puget Sound soft shore protection projects.

Results of 5-years of monitoring revealed that Driftwood Beach, San Juan County, remained stable since project construction with less than 0.25 ft of vertical change over the majority of the beach. There was no indication of waterward migration of gravel below the lower project extent during the 5 years instead; there was net onshore sediment transport. The project achieved the goals of protecting the community-owned beach area, remaining stable and not negatively impacting adjacent eelgrass and macro algae.

The protective berm at Samish Island, Skagit County, remained fairly stable. All project goals were met during the 5-year monitoring period. Annual gravel loss ranged from 1.23% of the initial placement volume. Most of the loss occurred at the up-drift beach “stockpile area.”

These two privately funded projects illustrate the need for site-specific assessment and restoration/ rehabilitation design for Puget Sound coastal sites. The success of both projects demonstrates the feasibility of beach restoration and rehabilitation in Puget Sound for erosion control that avoids negative impacts of bulkheading, and improves habitat conditions.